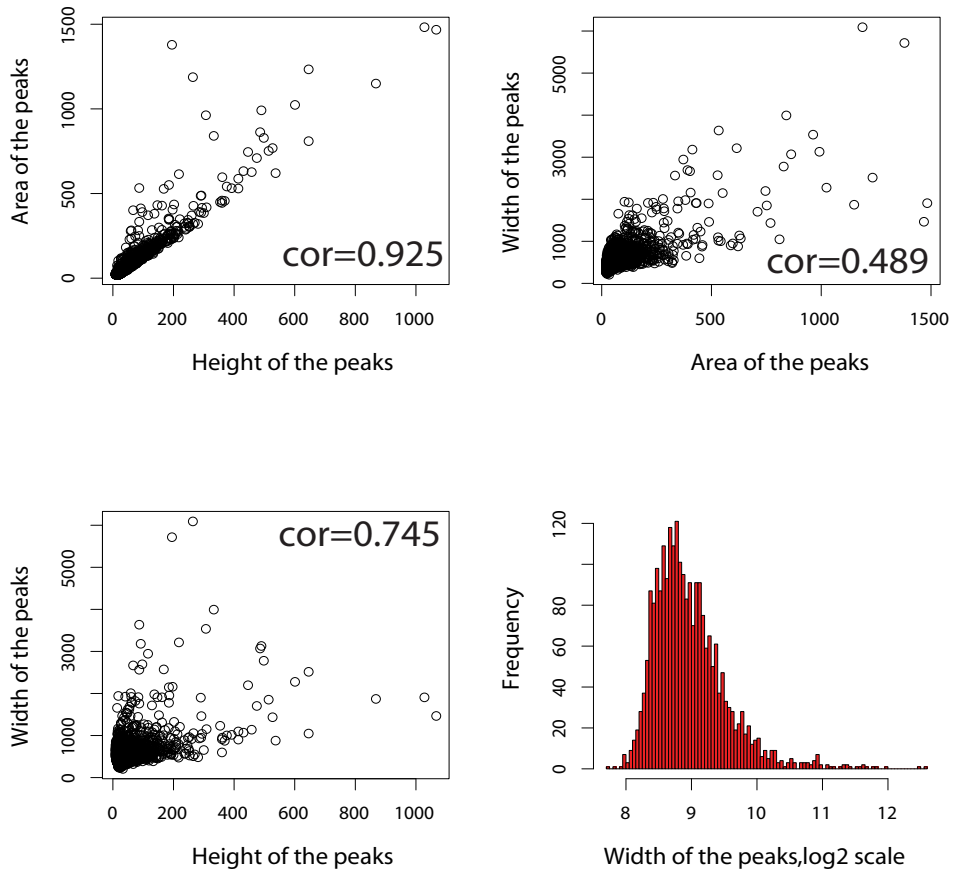


Figure S1

A



B

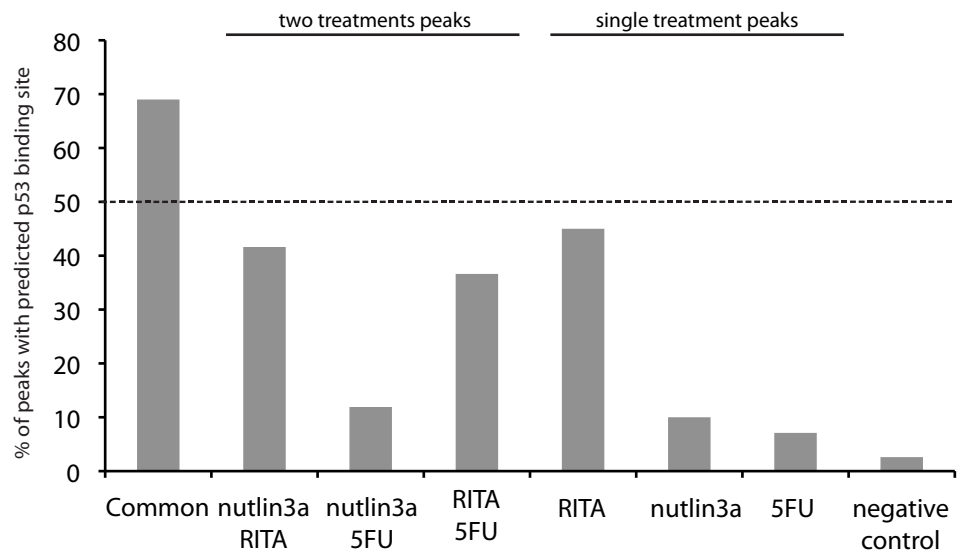


Figure S2

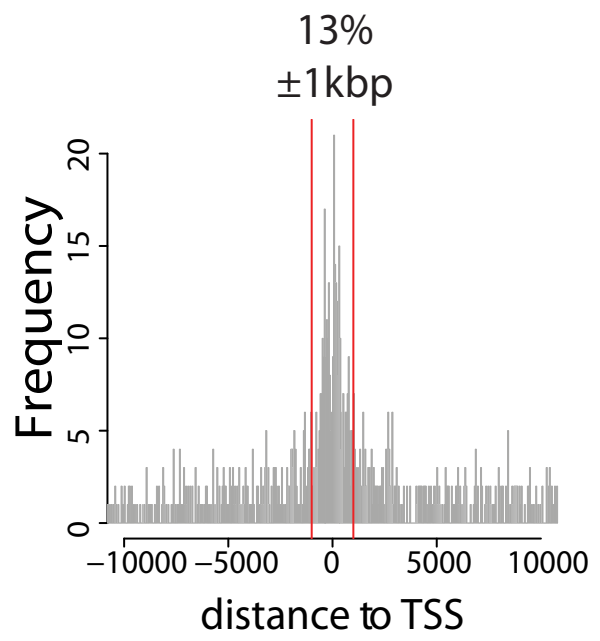
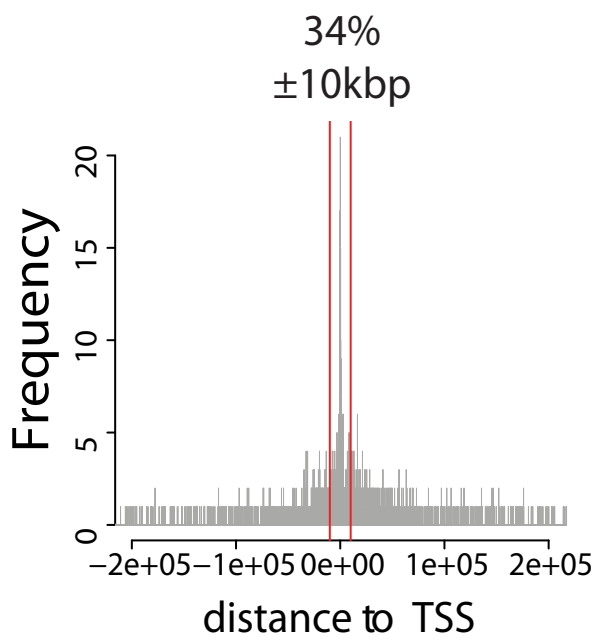
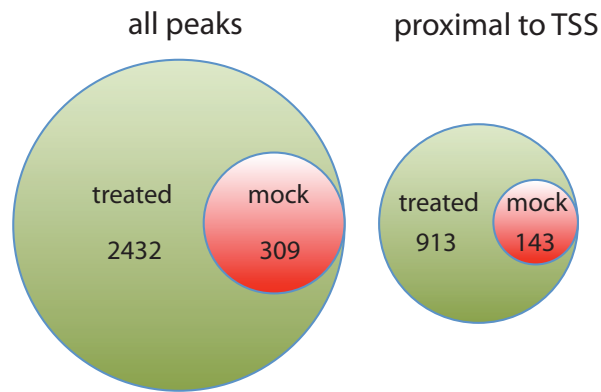


Figure S3

A



B

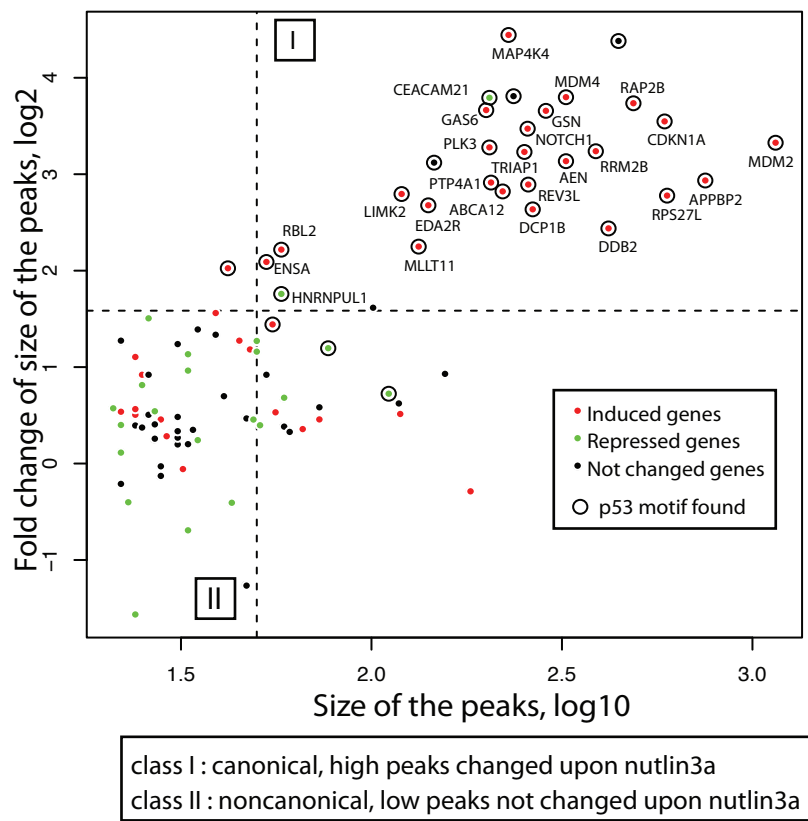
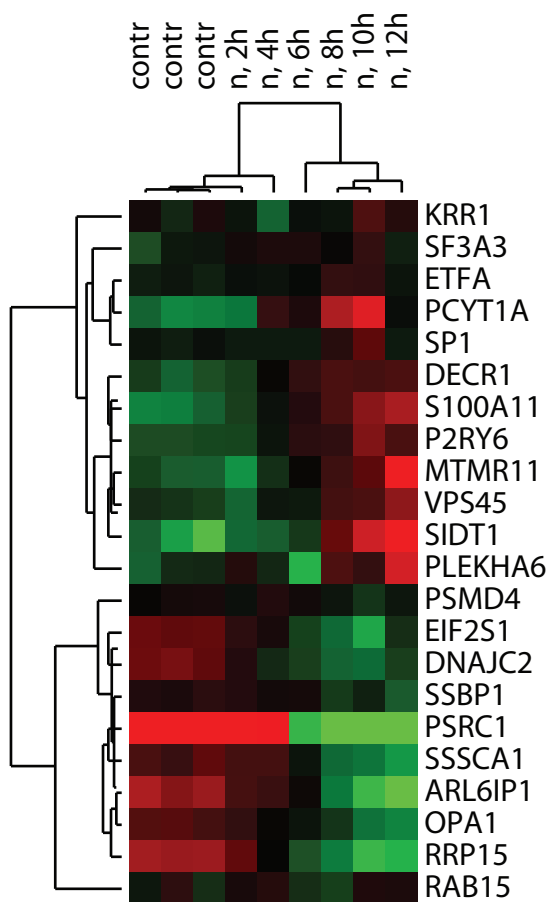


Figure S4

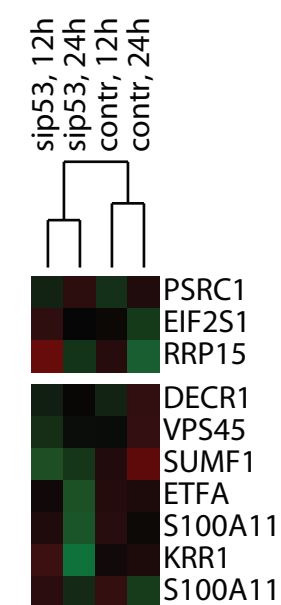
A

class I, noncanonical peaks



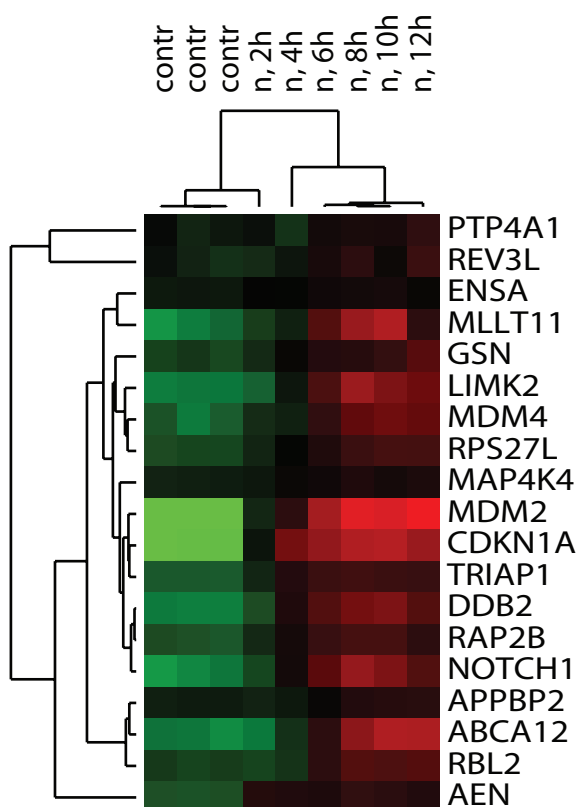
B

class I, noncanonical peaks



C

class II, canonical peaks



D

class II, canonical peaks

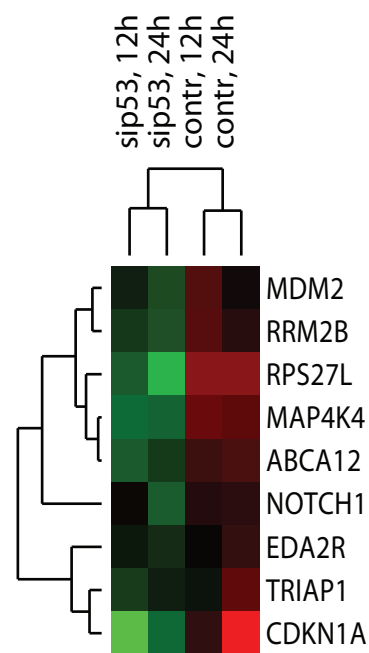
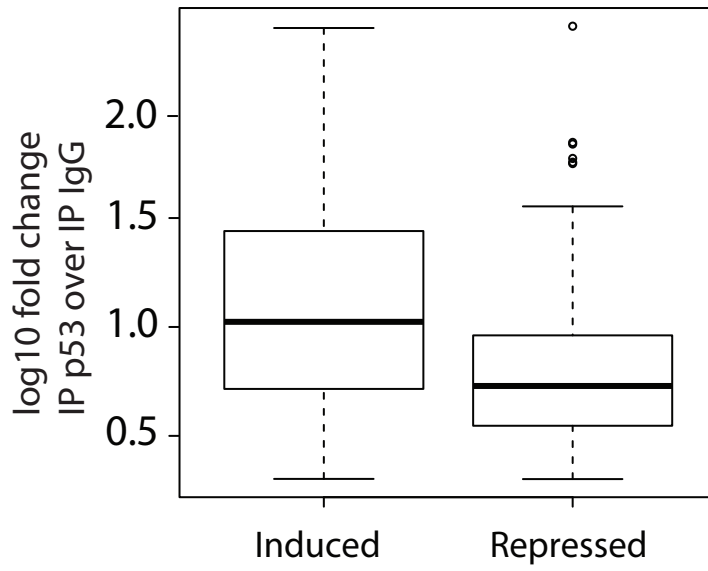


Figure S5

A



B

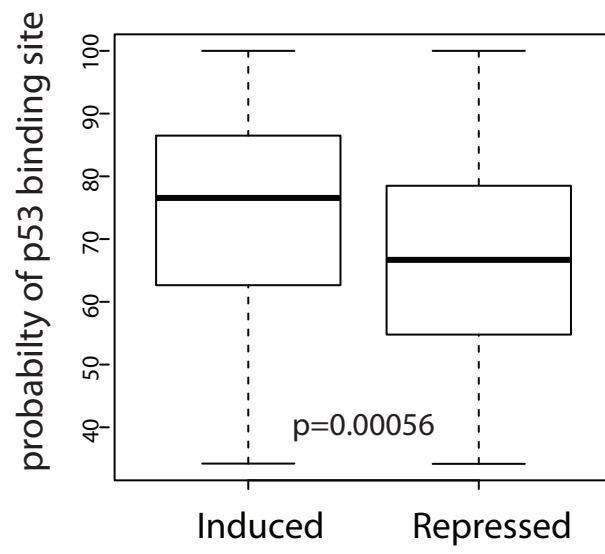


Figure S6

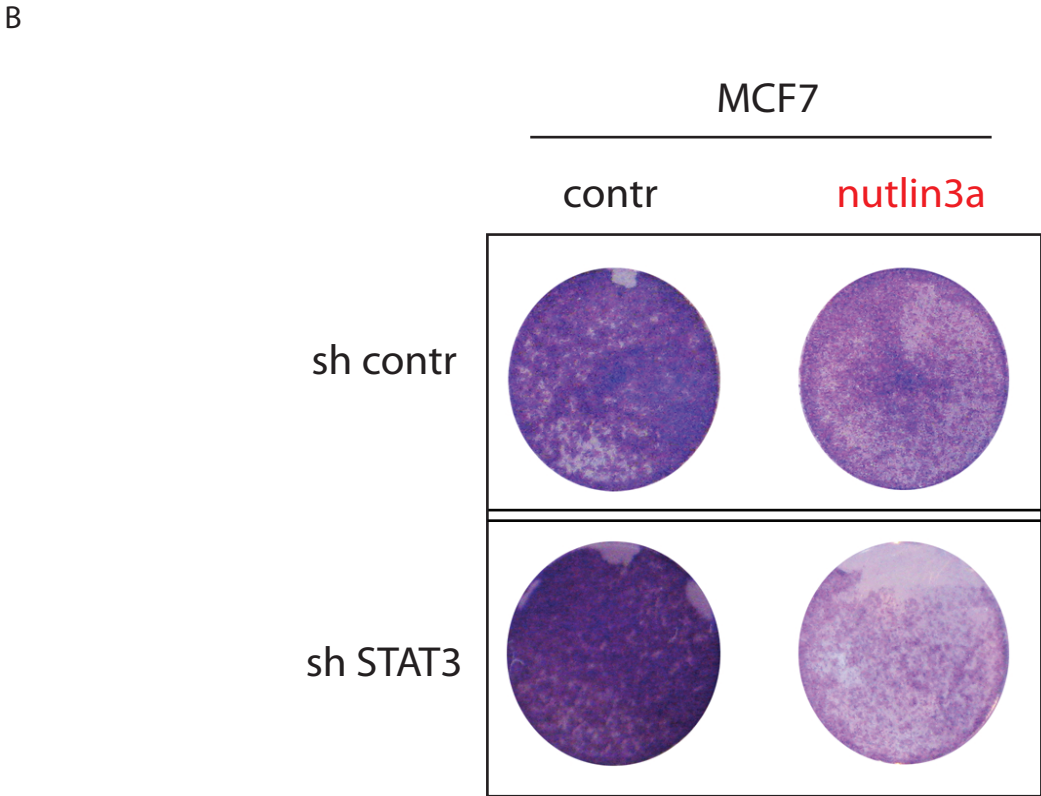
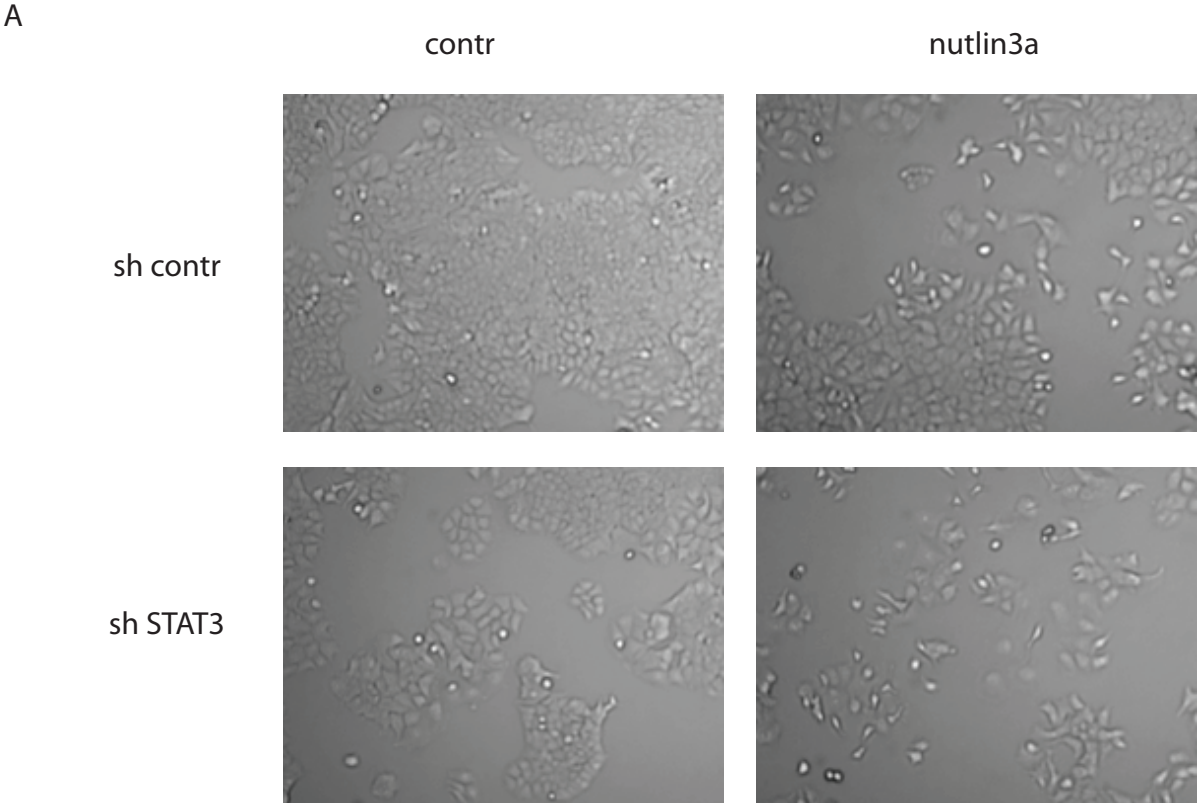


Figure S7

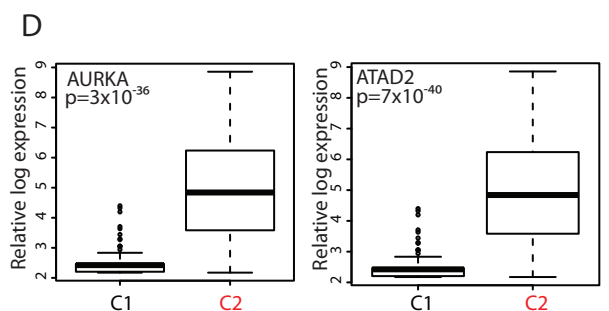
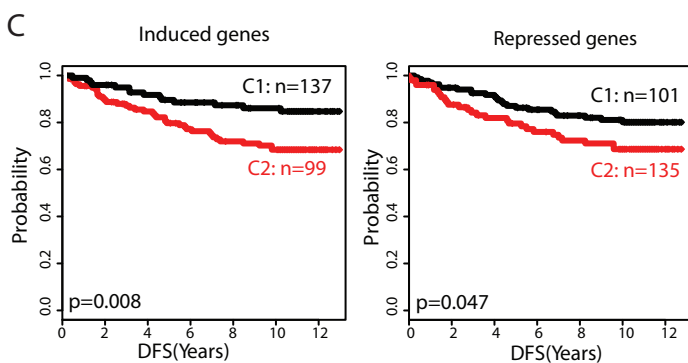
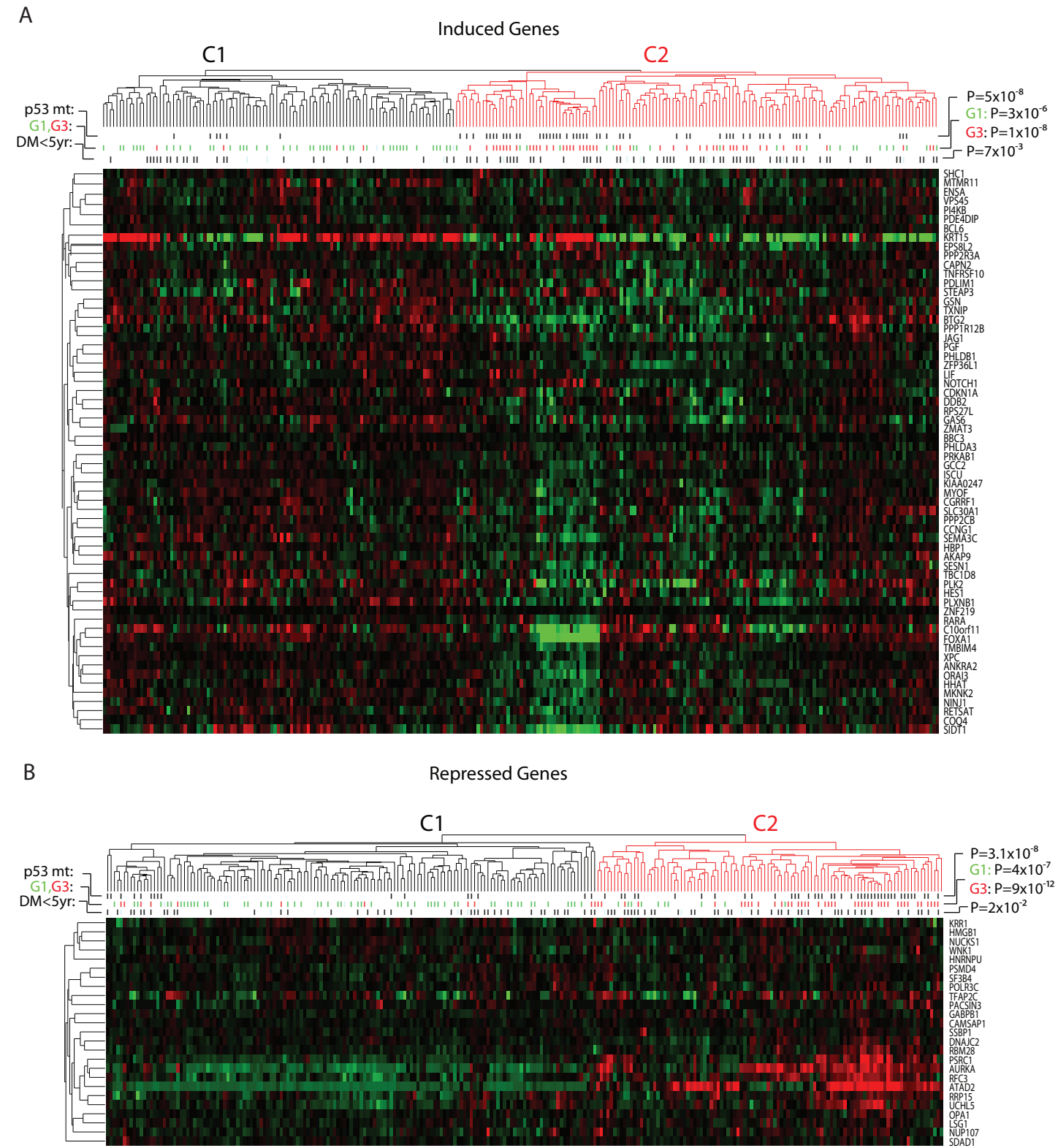


Table S5, related to Figure 1. Known p53 target genes bound by p53 upon all three treatments (46 genes)

GeneSymbol	EnsName	chr	start	end	Width	Dist_to_TSS
AEN	ENSG00000181026	chr15	86965199	86966090	891	65
ARID3A	ENSG00000116017	chr19	884381	884949	568	7560
BAX	ENSG00000087088	chr19	54150064	54150490	426	331
BBC3	ENSG00000105327	chr19	52427444	52427946	502	25
BBC3	ENSG00000105327	chr19	52426312	52427062	750	189
BCL6	ENSG00000113916	chr3	188950368	188951186	818	4884
BTG2	ENSG00000159388	chr1	201541130	201541514	384	34
BTG2	ENSG00000159388	chr1	201542096	201542925	829	1182
C12orf5	ENSG00000078237	chr12	4300582	4301303	721	470
CCNG1	ENSG00000113328	chr5	162796907	162797782	875	301
CDKN1A	ENSG00000124762	chr6	36754039	36754835	796	228
CDKN1A	ENSG00000124762	chr6	36752718	36753353	635	1345
CDKN1A	ENSG00000124762	chr6	36751718	36752623	905	2254
CDKN1A	ENSG00000124762	chr6	36753364	36753907	543	737
CDKN1A	ENSG00000124762	chr6	36758203	36758619	416	3903
DDB2	ENSG00000134574	chr11	47192787	47193941	1154	6
DDIT4	ENSG00000168209	chr10	73700292	73700778	486	3125
EDA2R	ENSG00000131080	chrX	65774949	65775589	640	345
EDN2	ENSG00000127129	chr1	41720503	41720880	377	2183
FAS	ENSG00000026103	chr10	90740809	90741482	673	700
GADD45A	ENSG00000116717	chr1	67924610	67925301	691	1578
GDF15	ENSG00000130513	chr19	18357779	18358224	445	41
KRT8	ENSG00000170421	chr12	51585028	51585630	602	141
KRT8	ENSG00000170421	chr12	51575260	51576001	741	9648
LIF	ENSG00000128342	chr22	28971553	28972500	947	838
LRDD	ENSG00000177595	chr11	794218	794701	483	864
MDM2	ENSG00000135679	chr12	67487558	67489430	1872	251
MDM2	ENSG00000135679	chr12	67480354	67480656	302	7714
NOTCH1	ENSG00000148400	chr9	138564427	138565369	942	4751
PCNA	ENSG00000132646	chr20	5048591	5049089	498	236
PLK2	ENSG00000145632	chr5	57793547	57794083	536	2193
PLK3	ENSG00000173846	chr1	45037929	45038630	701	454

PMAIP1	ENSG00000141682	chr18	55717715	55718339	624	264
PPM1D	ENSG00000170836	chr17	56031318	56033835	2517	66
PRDM1	ENSG00000057657	chr6	106652740	106653507	767	342
PRKAB1	ENSG00000111725	chr12	118590023	118590430	407	58
PTEN	ENSG00000171862	chr10	89611808	89612324	516	1021
PTEN	ENSG00000171862	chr10	89612779	89613219	440	133
RABGGTA	ENSG00000100949	chr14	23810165	23810539	374	223
RPS27L	ENSG00000185088	chr15	61236036	61236987	951	172
RRM2B	ENSG00000048392	chr8	103317817	103318767	950	2042
S100A2	ENSG00000196754	chr1	151806616	151807052	436	179
S100A2	ENSG00000196754	chr1	151805626	151806045	419	50
SERPINB5	ENSG00000206075	chr18	59294721	59295344	623	225
SESN1	ENSG00000080546	chr6	109436630	109437343	713	14
SESN2	ENSG00000130766	chr1	28459225	28459768	543	811
SFN	ENSG00000175793	chr1	27060320	27060757	437	1681
STEAP3	ENSG00000115107	chr2	119691105	119691660	555	6570
STEAP3	ENSG00000115107	chr2	119692116	119693157	1041	5291
TNFRSF10B	ENSG00000120889	chr8	22981900	22982651	751	561
TP53I3	ENSG00000115129	chr2	24160532	24160964	432	11
TP53INP1	ENSG00000164938	chr8	96030700	96031500	800	233
TP53INP1	ENSG00000164938	chr8	96032625	96033168	543	2219
TP53TG1	ENSG00000182165	chr7	86811647	86813187	1540	795
TRAF4	ENSG00000076604	chr17	24094086	24095083	997	810
TRIAP1	ENSG00000170855	chr12	119368069	119368802	733	66
TRIM22	ENSG00000132274	chr11	5668208	5668692	484	914
ZMAT3	ENSG00000172667	chr3	180270323	180271040	717	1602

Table S6, related to Figure 2. Known p53 target genes bound upon all three treatments within TSS and differentially expressed upon mult3a (40 genes)

GeneSymbol	EnsName	chr	start	end	Dist_to_TSS	log2FC	Adj.p.Val
AEN	ENSG00000181026	chr15	86965199	86966090	65	1.550570094	0.001552165
BAX	ENSG00000087088	chr19	54150064	54150490	331	1.904904918	0.000828345
BBC3	ENSG00000105327	chr19	52427444	52427946	25	3.637337604	0.000654262
BBC3	ENSG00000105327	chr19	52426312	52427062	189	3.637337604	0.000654262
BCL6	ENSG00000113916	chr3	188950368	188951186	4884	0.510369276	0.00390297
BTG2	ENSG00000159388	chr1	201541130	201541514	34	3.893063308	0.000536459
BTG2	ENSG00000159388	chr1	201542096	201542925	1182	3.893063308	0.000536459
C12orf5	ENSG00000078237	chr12	4300582	4301303	470	2.896713365	0.000605846
CCNG1	ENSG00000113328	chr5	162796907	162797782	301	2.105432347	0.000725985
CDKN1A	ENSG00000124762	chr6	36754039	36754835	228	4.498903377	0.000224292
CDKN1A	ENSG00000124762	chr6	36758203	36758619	3903	4.498903377	0.000224292
CDKN1A	ENSG00000124762	chr6	36752718	36753353	1345	4.498903377	0.000224292
CDKN1A	ENSG00000124762	chr6	36753364	36753907	737	4.498903377	0.000224292
CDKN1A	ENSG00000124762	chr6	36751718	36752623	2254	4.498903377	0.000224292
DDB2	ENSG00000134574	chr11	47192787	47193941	6	2.633809302	0.000694746
DDIT4	ENSG00000168209	chr10	73700292	73700778	3125	2.417346415	0.005471575
EDA2R	ENSG00000131080	chrX	65774949	65775589	345	3.586689218	0.00088897
EDN2	ENSG00000127129	chr1	41720503	41720880	2183	1.587525469	0.005850992
FAS	ENSG00000026103	chr10	90740809	90741482	700	4.67929599	0.000224292
GADD45A	ENSG00000116717	chr1	67924610	67925301	1578	4.204589468	0.000511021
GDF15	ENSG00000130513	chr19	18357779	18358224	41	4.397483463	0.000387554
LIF	ENSG00000128342	chr22	28971553	28972500	838	4.27315573	0.001341969
LRDD	ENSG00000177595	chr11	794218	794701	864	2.732433409	0.000654262
MDM2	ENSG00000135679	chr12	67487558	67489430	251	3.828128003	0.000224292
MDM2	ENSG00000135679	chr12	67480354	67480656	7714	3.828128003	0.000224292
NOTCH1	ENSG00000148400	chr9	138564427	138565369	4751	2.27828332	0.001969558
PLK2	ENSG00000145632	chr5	57793547	57794083	2193	0.724515053	0.039376607
PLK3	ENSG00000173846	chr1	45037929	45038630	454	1.785887018	0.003838996
PMAIP1	ENSG00000141682	chr18	55717715	55718339	264	2.095062157	0.000798855
PPM1D	ENSG00000170836	chr17	56031318	56033835	66	1.773431548	0.000654262

PRKAB1	ENSG00000111725	chr12	118590023	118590430	58	1.260939441	0.000870445
RABGGTA	ENSG00000100949	chr14	23810165	23810539	223	1.195155194	0.004609675
RPS27L	ENSG00000185088	chr15	61236036	61236987	172	1.120976604	0.000487023
RRM2B	ENSG00000048392	chr8	103317817	103318767	2042	2.241792759	0.000654262
S100A2	ENSG00000196754	chr1	151806616	151807052	179	0.886348145	0.017289683
S100A2	ENSG00000196754	chr1	151805626	151806045	50	0.886348145	0.017289683
SERPINB5	ENSG00000206075	chr18	59294721	59295344	225	6.665376191	0.000654262
SESN1	ENSG00000080546	chr6	109436630	109437343	14	3.92247604	0.000605846
SESN2	ENSG00000130766	chr1	28459225	28459768	811	3.275818504	0.000654262
SFN	ENSG00000175793	chr1	27060320	27060757	1681	1.22107711	0.000731682
STEAP3	ENSG00000115107	chr2	119691105	119691660	6570	1.592503152	0.002712565
STEAP3	ENSG00000115107	chr2	119692116	119693157	5291	1.592503152	0.002712565
TNFRSF10B	ENSG00000120889	chr8	22981900	22982651	561	2.948796335	0.000224292
TP53I3	ENSG00000115129	chr2	24160532	24160964	11	4.932967764	0.000914134
TP53INP1	ENSG00000164938	chr8	96032625	96033168	2219	4.031139404	0.000319425
TP53INP1	ENSG00000164938	chr8	96030700	96031500	233	4.031139404	0.000319425
TP53TG1	ENSG00000182165	chr7	86811647	86813187	795	2.080384743	0.002011979
TRAF4	ENSG00000076604	chr17	24094086	24095083	810	2.27566303	0.002811158
TRIAP1	ENSG00000170855	chr12	119368069	119368802	66	1.407088038	0.000654262
ZMAT3	ENSG00000172667	chr3	180270323	180271040	1602	3.155926856	0.001341969

Table S7, related to Figure 2. All known p53 target genes bound upon mult3a and differentially expressed upon mult3a (67 genes)

GeneSymbol	EnsName	chr	start	end	Dist_to_TSS	log2FC	Adj.p.Val
AEN	ENSG00000181026	chr15	86966306	86966542	867	1.550570094	0.001552165
AEN	ENSG00000181026	chr15	86965199	86966090	65	1.550570094	0.001552165
ANLN	ENSG00000011426	chr7	36396454	36396672	497	-1.830921001	0.000725985
ATF3	ENSG00000162772	chr1	210848321	210848799	39	2.631358307	0.004619785
ATF3	ENSG00000162772	chr1	210835901	210836731	12121	2.631358307	0.004619785
BAX	ENSG00000087088	chr19	54150064	54150490	331	1.904904918	0.000828345
BAX	ENSG00000087088	chr19	54149562	54149958	128	1.904904918	0.000828345
BBC3	ENSG00000105327	chr19	52439368	52439606	11788	3.637337604	0.000654262
BBC3	ENSG00000105327	chr19	52436116	52436527	8596	3.637337604	0.000654262
BBC3	ENSG00000105327	chr19	52427444	52427946	25	3.637337604	0.000654262
BBC3	ENSG00000105327	chr19	52426312	52427062	189	3.637337604	0.000654262
BBC3	ENSG00000105327	chr19	52432217	52432535	4677	3.637337604	0.000654262
BCL6	ENSG00000113916	chr3	188950368	188951186	4884	0.510369276	0.00390297
BCL6	ENSG00000113916	chr3	188964875	188965165	18851	0.510369276	0.00390297
BCL6	ENSG00000113916	chr3	189114634	189114924	168606	0.510369276	0.00390297
BCL6	ENSG00000113916	chr3	188942664	188943099	3238	0.510369276	0.00390297
BCL6	ENSG00000113916	chr3	188946093	188946411	109	0.510369276	0.00390297
BCL6	ENSG00000113916	chr3	188944329	188944508	1751	0.510369276	0.00390297
BCL6	ENSG00000113916	chr3	188948536	188948825	2511	0.510369276	0.00390297
BCL6	ENSG00000113916	chr3	189009421	189009800	63431	0.510369276	0.00390297
BTG2	ENSG00000159388	chr1	201542096	201542925	1182	3.893063308	0.000536459
BTG2	ENSG00000159388	chr1	201516908	201517224	24238	3.893063308	0.000536459
BTG2	ENSG00000159388	chr1	201541130	201541514	34	3.893063308	0.000536459
BTG2	ENSG00000159388	chr1	201517994	201518314	23144	3.893063308	0.000536459
C12orf5	ENSG00000078237	chr12	4300582	4301303	470	2.896713365	0.000605846
C12orf5	ENSG00000078237	chr12	4287281	4287664	13169	2.896713365	0.000605846
CCNG1	ENSG00000113328	chr5	162796907	162797782	301	2.105432347	0.000725985
CCNK	ENSG00000090061	chr14	99020289	99020578	2928	0.697329995	0.001438117
CCNK	ENSG00000090061	chr14	99054545	99054920	37233	0.697329995	0.001438117
CCNK	ENSG00000090061	chr14	99061003	99061271	43617	0.697329995	0.001438117
CCNK	ENSG00000090061	chr14	99017134	99017444	192	0.697329995	0.001438117
CCNK	ENSG00000090061	chr14	99018103	99018308	732	0.697329995	0.001438117

CCNK	ENSG00000090061	chr14	99017501	99017854	150	0.697329995	0.001438117
CCNK	ENSG00000090061	chr14	99055020	99055339	37687	0.697329995	0.001438117
CD82	ENSG00000085117	chr11	44542774	44543097	774	1.133927974	0.001779423
CDC25C	ENSG00000158402	chr5	137669357	137669755	25821	-1.018733472	0.016889923
CDKN1A	ENSG00000124762	chr6	36752718	36753353	1345	4.498903377	0.000224292
CDKN1A	ENSG00000124762	chr6	36754039	36754835	228	4.498903377	0.000224292
CDKN1A	ENSG00000124762	chr6	36754926	36755405	620	4.498903377	0.000224292
CDKN1A	ENSG00000124762	chr6	36758203	36758619	3903	4.498903377	0.000224292
CDKN1A	ENSG00000124762	chr6	36756214	36756627	1917	4.498903377	0.000224292
CDKN1A	ENSG00000124762	chr6	36753364	36753907	737	4.498903377	0.000224292
CDKN1A	ENSG00000124762	chr6	36751718	36752623	2254	4.498903377	0.000224292
CTSD	ENSG00000117984	chr11	1740237	1740445	1313	0.853293689	0.037278425
DDB2	ENSG00000134574	chr11	47192787	47193941	6	2.633809302	0.000694746
DDB2	ENSG00000134574	chr11	47194328	47194693	1362	2.633809302	0.000694746
DDB2	ENSG00000134574	chr11	47192413	47192742	465	2.633809302	0.000694746
DDB2	ENSG00000134574	chr11	47208350	47208529	15320	2.633809302	0.000694746
DDIT4	ENSG00000168209	chr10	73703883	73704071	301	2.417346415	0.005471575
DDIT4	ENSG00000168209	chr10	73700292	73700778	3125	2.417346415	0.005471575
DDIT4	ENSG00000168209	chr10	73740448	73740718	36916	2.417346415	0.005471575
DDIT4	ENSG00000168209	chr10	73690446	73690631	13154	2.417346415	0.005471575
DDIT4	ENSG00000168209	chr10	73703256	73703523	294	2.417346415	0.005471575
DDIT4	ENSG00000168209	chr10	73727654	73728604	24446	2.417346415	0.005471575
DKK1	ENSG00000107984	chr10	53743400	53743693	501	0.772883649	0.001415917
DKK1	ENSG00000107984	chr10	53743983	53744410	115	0.772883649	0.001415917
DSCC1	ENSG00000136982	chr8	120937218	120937516	9	-1.749281667	0.003647277
EDA2R	ENSG00000131080	chrX	65774949	65775589	345	3.586689218	0.00088897
EDN2	ENSG00000127129	chr1	41720503	41720880	2183	1.587525469	0.005850992
EOMES	ENSG00000163508	chr3	27858774	27858988	120116	0.969445547	0.009558085
EOMES	ENSG00000163508	chr3	27769452	27769682	30830	0.969445547	0.009558085
EOMES	ENSG00000163508	chr3	27784701	27784890	46006	0.969445547	0.009558085
EPHA2	ENSG00000142627	chr1	16351580	16351825	3430	2.186795297	0.001890249
FAS	ENSG00000026103	chr10	90740371	90740710	172	4.67929599	0.000224292
FAS	ENSG00000026103	chr10	90740809	90741482	700	4.67929599	0.000224292
FDXR	ENSG00000161513	chr17	70380879	70381364	282	3.06329354	0.000798855

FDXR	ENSG00000161513	chr17	70380491	70380780	116	3.06329354	0.000798855
FOS	ENSG00000170345	chr14	74791448	74791867	23627	1.55356939	0.008049253
FOS	ENSG00000170345	chr14	74795362	74796057	19489	1.55356939	0.008049253
FOS	ENSG00000170345	chr14	74814514	74815371	514	1.55356939	0.008049253
FOS	ENSG00000170345	chr14	74796408	74797013	18653	1.55356939	0.008049253
FOS	ENSG00000170345	chr14	74813624	74813845	1550	1.55356939	0.008049253
FOS	ENSG00000170345	chr14	74811652	74811888	3489	1.55356939	0.008049253
GADD45A	ENSG00000116717	chr1	67963411	67963750	40166	4.204589468	0.000511021
GADD45A	ENSG00000116717	chr1	67923944	67924149	531	4.204589468	0.000511021
GADD45A	ENSG00000116717	chr1	67976744	67977029	53421	4.204589468	0.000511021
GADD45A	ENSG00000116717	chr1	67924610	67925301	1578	4.204589468	0.000511021
GDF15	ENSG00000130513	chr19	18351903	18352386	5914	4.397483463	0.000387554
GDF15	ENSG00000130513	chr19	18336304	18337308	21162	4.397483463	0.000387554
GDF15	ENSG00000130513	chr19	18357779	18358224	41	4.397483463	0.000387554
GDF15	ENSG00000130513	chr19	18345327	18346260	12201	4.397483463	0.000387554
GDF15	ENSG00000130513	chr19	18360317	18360558	2469	4.397483463	0.000387554
HRAS	ENSG00000174775	chr11	524656	524872	444	0.874067876	0.00407934
HSPA8	ENSG00000109971	chr11	122438147	122438380	209	-0.064049848	0.014000971
LIF	ENSG00000128342	chr22	28971553	28972500	838	4.27315573	0.001341969
LIF	ENSG00000128342	chr22	28982065	28982259	9414	4.27315573	0.001341969
LRDD	ENSG00000177595	chr11	794218	794701	864	2.732433409	0.000654262
MAD1L1	ENSG00000002822	chr7	2174739	2174933	61508	1.302960548	0.004514853
MAD1L1	ENSG00000002822	chr7	2176071	2176842	59981	1.302960548	0.004514853
MAD1L1	ENSG00000002822	chr7	2178980	2179341	57142	1.302960548	0.004514853
MDM2	ENSG00000135679	chr12	67548427	67548708	59285	3.828128003	0.000224292
MDM2	ENSG00000135679	chr12	67480354	67480656	7714	3.828128003	0.000224292
MDM2	ENSG00000135679	chr12	67467146	67467336	21006	3.828128003	0.000224292
MDM2	ENSG00000135679	chr12	67487558	67489430	251	3.828128003	0.000224292
MDM2	ENSG00000135679	chr12	67467391	67467971	20454	3.828128003	0.000224292
MDM2	ENSG00000135679	chr12	67480043	67480351	8050	3.828128003	0.000224292
MDM2	ENSG00000135679	chr12	67534100	67534306	44971	3.828128003	0.000224292
MDM2	ENSG00000135679	chr12	67461342	67461691	26711	3.828128003	0.000224292
MET	ENSG00000105976	chr7	116157839	116158236	58390	0.427145699	0.018941497
MSH2	ENSG00000095002	chr2	47556994	47557202	73312	-1.171012775	0.002839641

NOTCH1	ENSG00000148400	chr9	138565600	138565959	5637	2.27828332	0.001969558
NOTCH1	ENSG00000148400	chr9	138559035	138559276	904	2.27828332	0.001969558
NOTCH1	ENSG00000148400	chr9	138564427	138565369	4751	2.27828332	0.001969558
PERP	ENSG00000112378	chr6	138451115	138451377	19034	0.603508084	0.013116389
PERP	ENSG00000112378	chr6	138449397	138449626	20773	0.603508084	0.013116389
PLK2	ENSG00000145632	chr5	57630918	57631167	160670	0.724515053	0.039376607
PLK2	ENSG00000145632	chr5	57785880	57786129	5707	0.724515053	0.039376607
PLK2	ENSG00000145632	chr5	57791388	57791760	106	0.724515053	0.039376607
PLK2	ENSG00000145632	chr5	57793547	57794083	2193	0.724515053	0.039376607
PLK2	ENSG00000145632	chr5	57792550	57792742	989	0.724515053	0.039376607
PLK3	ENSG00000173846	chr1	45037929	45038630	454	1.785887018	0.003838996
PMAIP1	ENSG00000141682	chr18	55736668	55736883	18569	2.095062157	0.000798855
PMAIP1	ENSG00000141682	chr18	55717715	55718339	264	2.095062157	0.000798855
PMAIP1	ENSG00000141682	chr18	55750942	55751121	32777	2.095062157	0.000798855
PML	ENSG00000140464	chr15	72074451	72074897	663	0.555931394	0.027024642
PML	ENSG00000140464	chr15	72073906	72074193	12	0.555931394	0.027024642
PPM1D	ENSG00000170836	chr17	56001643	56002335	30303	1.773431548	0.000654262
PPM1D	ENSG00000170836	chr17	56031318	56033835	66	1.773431548	0.000654262
PPM1D	ENSG00000170836	chr17	56014914	56015437	17208	1.773431548	0.000654262
PPM1D	ENSG00000170836	chr17	55996836	55997070	35383	1.773431548	0.000654262
PPM1D	ENSG00000170836	chr17	56018196	56019014	13684	1.773431548	0.000654262
PPM1D	ENSG00000170836	chr17	56051162	56051445	18943	1.773431548	0.000654262
PPM1D	ENSG00000170836	chr17	55997478	55997787	34723	1.773431548	0.000654262
PPM1D	ENSG00000170836	chr17	56025082	56025400	7095	1.773431548	0.000654262
PPM1D	ENSG00000170836	chr17	56056107	56056351	23883	1.773431548	0.000654262
PRKAB1	ENSG00000111725	chr12	118590023	118590430	58	1.260939441	0.000870445
RABGGTA	ENSG00000100949	chr14	23810165	23810539	223	1.195155194	0.004609675
RNF144B	ENSG00000137393	chr6	18495211	18495869	20	0.861100752	0.019461772
RPS27L	ENSG00000185088	chr15	61236036	61236987	172	1.120976604	0.000487023
RRM2B	ENSG00000048392	chr8	103317817	103318767	2042	2.241792759	0.000654262
RRM2B	ENSG00000048392	chr8	103319870	103321048	57	2.241792759	0.000654262
RRM2B	ENSG00000048392	chr8	103369496	103369675	49063	2.241792759	0.000654262
RRM2B	ENSG00000048392	chr8	103318924	103319120	1295	2.241792759	0.000654262
RRM2B	ENSG00000048392	chr8	103312710	103313040	7437	2.241792759	0.000654262

S100A2	ENSG00000196754	chr1	151811694	151812012	4863	0.886348145	0.017289683
S100A2	ENSG00000196754	chr1	151805626	151806045	50	0.886348145	0.017289683
S100A2	ENSG00000196754	chr1	151806616	151807052	179	0.886348145	0.017289683
SEMA3B	ENSG00000012171	chr3	50281267	50281669	231	0.872297762	0.003377235
SERPINB5	ENSG00000206075	chr18	59294721	59295344	225	6.665376191	0.000654262
SERPINE1	ENSG00000106366	chr7	100556853	100557045	223	1.401129249	0.019078748
SESN1	ENSG00000080546	chr6	109437470	109437796	189	3.92247604	0.000605846
SESN1	ENSG00000080546	chr6	109436630	109437343	14	3.92247604	0.000605846
SESN2	ENSG00000130766	chr1	28459225	28459768	811	3.275818504	0.000654262
SFN	ENSG00000175793	chr1	27064072	27064520	1948	1.22107711	0.000731682
SFN	ENSG00000175793	chr1	27061920	27062151	178	1.22107711	0.000731682
SFN	ENSG00000175793	chr1	27060320	27060757	1681	1.22107711	0.000731682
SLC38A2	ENSG00000134294	chr12	45130657	45130836	69998	0.628680691	0.003537404
SLC38A2	ENSG00000134294	chr12	45189247	45189451	128683	0.628680691	0.003537404
SLC38A2	ENSG00000134294	chr12	45022526	45022850	30118	0.628680691	0.003537404
SLC38A2	ENSG00000134294	chr12	45173717	45173971	113167	0.628680691	0.003537404
SLC38A2	ENSG00000134294	chr12	45153726	45154082	93270	0.628680691	0.003537404
SLC38A2	ENSG00000134294	chr12	45063283	45063725	2856	0.628680691	0.003537404
SLC38A2	ENSG00000134294	chr12	45257517	45257873	197019	0.628680691	0.003537404
SLC38A2	ENSG00000134294	chr12	45135794	45136176	75382	0.628680691	0.003537404
SLC38A2	ENSG00000134294	chr12	45052629	45052881	59	0.628680691	0.003537404
STAG1	ENSG00000118007	chr3	137954385	137954580	541	-0.801906214	0.007496244
STAG1	ENSG00000118007	chr3	137953807	137953996	43	-0.801906214	0.007496244
STEAP3	ENSG00000115107	chr2	119692116	119693157	5291	1.592503152	0.002712565
STEAP3	ENSG00000115107	chr2	119764992	119765187	67206	1.592503152	0.002712565
STEAP3	ENSG00000115107	chr2	119691866	119692056	5961	1.592503152	0.002712565
STEAP3	ENSG00000115107	chr2	119714369	119715191	16830	1.592503152	0.002712565
STEAP3	ENSG00000115107	chr2	119757820	119758045	60058	1.592503152	0.002712565
STEAP3	ENSG00000115107	chr2	119691105	119691660	6570	1.592503152	0.002712565
TNFRSF10A	ENSG00000104689	chr8	23137995	23138281	444	1.663862681	0.01155546
TNFRSF10B	ENSG00000120889	chr8	22981900	22982651	561	2.948796335	0.000224292
TNFRSF10B	ENSG00000120889	chr8	22955534	22955762	26998	2.948796335	0.000224292
TP53	ENSG00000141510	chr17	7529938	7530142	1436	-0.340229074	0.020917367
TP53I3	ENSG00000115129	chr2	24160532	24160964	11	4.932967764	0.000914134

TP53I3	ENSG00000115129	chr2	24161096	24161283	35	4.932967764	0.000914134
TP53INP1	ENSG00000164938	chr8	96028568	96028792	2053	4.031139404	0.000319425
TP53INP1	ENSG00000164938	chr8	96030700	96031500	233	4.031139404	0.000319425
TP53INP1	ENSG00000164938	chr8	96032625	96033168	2219	4.031139404	0.000319425
TP53TG1	ENSG00000182165	chr7	86784062	86784760	28497	2.080384743	0.002011979
TP53TG1	ENSG00000182165	chr7	86798182	86798649	14341	2.080384743	0.002011979
TP53TG1	ENSG00000182165	chr7	86790307	86790641	22268	2.080384743	0.002011979
TP53TG1	ENSG00000182165	chr7	86811647	86813187	795	2.080384743	0.002011979
TRAF4	ENSG00000076604	chr17	24101283	24101561	6192	2.27566303	0.002811158
TRAF4	ENSG00000076604	chr17	24097531	24097747	2351	2.27566303	0.002811158
TRAF4	ENSG00000076604	chr17	24094086	24095083	810	2.27566303	0.002811158
TRAF4	ENSG00000076604	chr17	24097993	24098239	2887	2.27566303	0.002811158
TRIAP1	ENSG00000170855	chr12	119368069	119368802	66	1.407088038	0.000654262
VDR	ENSG00000111424	chr12	46584671	46585041	169	-0.835575012	0.043652901
ZMAT3	ENSG00000172667	chr3	180270323	180271040	1602	3.155926856	0.001341969
ZMAT3	ENSG00000172667	chr3	180269666	180269954	2468	3.155926856	0.001341969
ZMAT3	ENSG00000172667	chr3	180272174	180272361	18	3.155926856	0.001341969
ZMAT3	ENSG00000172667	chr3	180271430	180272114	507	3.155926856	0.001341969
ZMAT3	ENSG00000172667	chr3	180271087	180271377	1079	3.155926856	0.001341969

Table S8, related to Figure 2. Known p53 target genes bound upon nutlin3a treatment , but not differentially expressed

GeneSymbol	EnsName	chr	start	end	Width	Dist_to_TSS	log2FC	Adj.p.Val
ABCB1	ENSG00000085563	7	87169593	87169868	87169762	10738	-0.05923023	0.778407298
ABCB1	ENSG00000085563	7	87234894	87235360	87235127	54621	-0.05923023	0.778407298
ADARB1	ENSG00000197381	21	45369742	45369978	45369866	46119	-0.22774874	0.142041533
ADARB1	ENSG00000197381	21	45317782	45318035	45317917	279	-0.22774874	0.142041533
AIFM2	ENSG00000042286	10	71549961	71550237	71550072	3792	0.230238508	0.125603992
APAF1	ENSG00000120868	12	97616864	97617061	97616948	53739	NA	NA
APC	ENSG00000134982	5	111999993	112000265	112000150	101333	0.516185448	0.07627362
ARID3A	ENSG00000116017	19	884381	884949	884597	7560	0.220820692	0.096130488
BAI1	ENSG00000181790	8	143525769	143526127	143525944	16435	0.191460331	0.232465125
BAI1	ENSG00000181790	8	143550242	143550579	143550403	8024	0.191460331	0.232465125
BAI1	ENSG00000181790	8	143559698	143560012	143559865	17486	0.191460331	0.232465125
BAI1	ENSG00000181790	8	143588325	143588775	143588639	46260	0.191460331	0.232465125
BCL2L14	ENSG00000121380	12	12077571	12077813	12077730	37415	NA	NA
BCL2L14	ENSG00000121380	12	12090634	12090958	12090796	24349	NA	NA
BCL2L14	ENSG00000121380	12	12091325	12091892	12091500	23645	NA	NA
BCL2L14	ENSG00000121380	12	12115153	12115345	12115260	115	NA	NA
BDKRB2	ENSG00000168398	14	95619046	95619307	95619188	121762	NA	NA
BDKRB2	ENSG00000168398	14	95601612	95602204	95601834	139116	NA	NA
BDKRB2	ENSG00000168398	14	95575937	95576129	95576075	164875	NA	NA
BDKRB2	ENSG00000168398	14	95752167	95752677	95752282	11332	NA	NA
BDKRB2	ENSG00000168398	14	95622261	95622460	95622360	118590	NA	NA
BDKRB2	ENSG00000168398	14	95634773	95635188	95635048	105902	NA	NA
BDKRB2	ENSG00000168398	14	95633103	95633392	95633265	107685	NA	NA
BDKRB2	ENSG00000168398	14	95619716	95620226	95619956	120994	NA	NA
BDKRB2	ENSG00000168398	14	95631790	95632531	95632134	108816	NA	NA
BDKRB2	ENSG00000168398	14	95590857	95591113	95590985	149965	NA	NA
BDKRB2	ENSG00000168398	14	95740669	95740940	95740798	152	NA	NA
BDKRB2	ENSG00000168398	14	95587968	95588166	95588036	152914	NA	NA
BDKRB2	ENSG00000168398	14	95636593	95637032	95636772	104178	NA	NA
C13orf15	ENSG00000102760	13	40931179	40931376	40931277	1735	NA	NA
CHMP4C	ENSG00000164695	8	82807382	82807663	82807512	269	0.312120987	0.341984243
CHMP4C	ENSG00000164695	8	82806955	82807292	82807123	120	0.312120987	0.341984243

COL18A1	ENSG00000182871	21	45652307	45652494	45652400	2884	0.282366527	0.118547506
COL18A1	ENSG00000182871	21	45699690	45700002	45699846	15	0.282366527	0.118547506
EEF1A1	ENSG00000156508	6	74287245	74287751	74287422	40	0.245871063	0.059011869
GML	ENSG00000104499	8	143893622	143895059	143894282	18937	NA	NA
HGF	ENSG00000019991	7	81157593	81157772	81157688	79697	NA	NA
HGF	ENSG00000019991	7	81090456	81091034	81090737	146648	NA	NA
HSP90AB1	ENSG00000096384	6	44322656	44322897	44322726	76	0.035125732	0.720371153
HTT	ENSG00000197386	4	3078081	3078297	3078189	31983	0.40553749	0.060502662
IGFBP3	ENSG00000146674	7	46160219	46160463	46160353	232957	0.298986101	0.223137554
IGFBP3	ENSG00000146674	7	45923771	45923973	45923872	3524	0.298986101	0.223137554
IGFBP3	ENSG00000146674	7	46358596	46358903	46358751	431355	0.298986101	0.223137554
IGFBP3	ENSG00000146674	7	45984259	45984813	45984438	57042	0.298986101	0.223137554
KRT8	ENSG00000170421	12	51559460	51559815	51559637	25490	-0.06904923	0.298815529
KRT8	ENSG00000170421	12	51575260	51576001	51575479	9648	-0.06904923	0.298815529
KRT8	ENSG00000170421	12	51564960	51565319	51565140	19987	-0.06904923	0.298815529
KRT8	ENSG00000170421	12	51587136	51587564	51587374	2247	-0.06904923	0.298815529
KRT8	ENSG00000170421	12	51585028	51585630	51585268	141	-0.06904923	0.298815529
KRT8	ENSG00000170421	12	51576173	51576915	51576285	8842	-0.06904923	0.298815529
KRT8	ENSG00000170421	12	51559987	51560326	51560156	24971	-0.06904923	0.298815529
MLH1	ENSG00000076242	3	37009924	37010167	37010045	23	0.175695828	0.140599034
NDRG1	ENSG00000104419	8	134331224	134331486	134331394	47286	0.596170486	0.107823445
NDRG1	ENSG00000104419	8	134378975	134379298	134379149	469	0.596170486	0.107823445
NDRG1	ENSG00000104419	8	134355576	134355779	134355677	23003	0.596170486	0.107823445
NOS3	ENSG00000164867	7	150328743	150329022	150328863	7058	NA	NA
P2RX6	ENSG00000099957	chr22	19711671	19711941	271	1178	NA	NA
PCNA	ENSG00000132646	20	5048591	5049089	5048836	236	-0.04983721	0.544290598
PDGFC	ENSG00000145431	4	157911863	157912461	157912219	199777	0.228341986	0.614416293
PPM1J	ENSG00000155367	1	113058182	113058456	113058319	1154	0.087569186	0.733788041
PRDM1	ENSG00000057657	6	106652740	106653507	106653166	342	NA	NA
PTEN	ENSG00000171862	10	89612779	89613219	89613042	133	0.25163383	0.188909823
PTEN	ENSG00000171862	10	89611808	89612324	89612154	1021	0.25163383	0.188909823
RBM38	ENSG00000132819	20	55444184	55444465	55444323	43459	-0.26733762	0.092568847
RFWD2	ENSG00000143207	1	174443054	174443392	174443214	221	-0.08264251	0.125488802
SCD	ENSG00000099194	10	102114619	102114920	102114769	18007	0.392884353	0.246037315

SCGB1D2	ENSG00000124935	11	61766099	61766338	61766250	50	NA	NA
SLC6A6	ENSG00000131389	3	14455904	14456242	14456073	36963	-0.41945328	0.107095447
SLC6A6	ENSG00000131389	3	14427685	14427923	14427749	8639	-0.41945328	0.107095447
SLC6A6	ENSG00000131389	3	14477832	14478051	14477912	58802	-0.41945328	0.107095447
SLC6A6	ENSG00000131389	3	14448732	14449043	14448871	29761	-0.41945328	0.107095447
SLC6A6	ENSG00000131389	3	14478298	14478540	14478363	59253	-0.41945328	0.107095447
SLC6A6	ENSG00000131389	3	14422513	14422714	14422613	3503	-0.41945328	0.107095447
SLC6A6	ENSG00000131389	3	14418648	14419157	14418928	182	-0.41945328	0.107095447
TGFA	ENSG00000163235	2	70696984	70697183	70697043	62430	0.673855821	0.081341849
TGFA	ENSG00000163235	2	70677355	70678060	70677724	43111	0.673855821	0.081341849
TP63	ENSG00000073282	3	190842366	190842545	190842455	10545	NA	NA
TP63	ENSG00000073282	3	190957054	190957322	190957200	33084	NA	NA
TP63	ENSG00000073282	3	190966925	190967209	190967079	23205	NA	NA
TP63	ENSG00000073282	3	190921542	190921827	190921673	68611	NA	NA
TP73	ENSG00000078900	1	3575269	3575556	3575412	16423	NA	NA
TRIM22	ENSG00000132274	11	5668208	5668692	5668409	914	NA	NA
VCAN	ENSG00000038427	5	82762004	82762249	82762088	41251	NA	NA
VCAN	ENSG00000038427	5	82839113	82839444	82839228	35889	NA	NA
VCAN	ENSG00000038427	5	82841061	82841289	82841152	37813	NA	NA
VCAN	ENSG00000038427	5	82805932	82806249	82806090	2751	NA	NA
VCAN	ENSG00000038427	5	82895251	82895490	82895370	92031	NA	NA
XRCC5	ENSG00000079246	2	216682091	216682489	216682310	69	-0.23353927	0.144210036

Table S9, related to Figure 2. Known p53 target genes differentially expressed upon nutlin3a, but not bound by p53

GeneSymbol	log2FC	Adj.p.Val
ACTA2	4.618197326	0.000939333
BID	-0.42996598	0.009178768
BIRC5	-2.26473532	0.003039412
CAV1	0.5559529	0.014328264
DDR1	0.191792896	0.040879189
DNMT1	-0.68901352	0.004310653
DUSP1	0.789974754	0.013488933
FANCC	-0.61824304	0.022860606
IER3	0.640735224	0.003328402
LASP1	-0.34446881	0.011886518
LGALS3	0.484793723	0.022604826
PCBP4	1.447297126	0.003936187
POLD1	-0.58273956	0.010169069
PYCARD	0.453087054	0.016343987
RAD51	-1.86483463	0.003403004
SOD2	-0.39457006	0.042399332
TAP1	2.473277129	0.001155708
UBTD1	0.798311698	0.02657989

Table S11, related to Figure 2. Class II noncanonical genes bound by p53 in the absence of p53 consensus site and activation stimuli. Genes induced upon nutlin 3a are in red, repressed – in green.

Gene	Ensemble	Chr	Start	End	Dist To TSS	Description	Log2FC	Adj.p.Val
ARL6IP1	ENSG00000170540	chr16	18720319	18720908	303	ADP-ribosylation factor-like protein 6-interacting protein 1 (ARL-6-interacting protein 1)(Aip-1) [Source:UniProtKB/Swiss-Prot;Acc:Q15041]	-0.77	0.01
ATP6V1D	ENSG00000100554	chr14	66896103	66896966	241	ATPase, H ⁺ transporting, lysosomal 34kDa, V1 subunit D [Source:HGNC Symbol;Acc:13527]	0.14	0.04
C14orf43	ENSG00000156030	chr14	73289014	73289577	7349	Uncharacterized protein C14orf43 [Source:UniProtKB/Swiss-Prot;Acc:Q6PJG2]	-0.57	0.03
CELSR2	ENSG00000143126	chr1	109618924	109619535	366	cadherin, EGF LAG seven-pass G-type receptor 2 (flamingo homolog, Drosophila) [Source:HGNC Symbol;Acc:3231]	0.3	0.04
CGN	ENSG00000143375	chr1	149752139	149752544	1870	Cingulin [Source:UniProtKB/Swiss-Prot;Acc:Q9P2M7]	-0.93	0.01
DDX59	ENSG00000118197	chr1	198905237	198906075	182	Probable ATP-dependent RNA helicase DDX59 (EC 3.6.1.-)(DEAD box protein 59)(Zinc finger HIT domain-containing protein 5) [Source:UniProtKB/Swiss-Prot;Acc:Q5T1V6]	0.57	0.01
DECRI1	ENSG00000104325	chr8	91082226	91082731	195	2,4-dienoyl-CoA reductase, mitochondrial Precursor (EC 1.3.1.34)(2,4-dienoyl-CoA reductase [NADPH])(4-enoyl-CoA reductase [NADPH]) [Source:UniProtKB/Swiss-Prot;Acc:Q16698]	0.26	0.01
DNAJC2	ENSG00000105821	chr7	102772406	102772734	0	DnaJ homolog subfamily C member 2 (Zuotin-related factor 1)(M-phase phosphoprotein 11) [Source:UniProtKB/Swiss-Prot;Acc:Q99543]	-0.5	0
EIF2S1	ENSG00000134001	chr14	66896103	66896966	101	Eukaryotic translation initiation factor 2 subunit 1 (Eukaryotic translation initiation factor 2 subunit alpha)(eIF-2-alpha)(EIF-2alpha)(EIF-2A) [Source:UniProtKB/Swiss-Prot;Acc:P05198]	-0.31	0
ETFA	ENSG00000140374	chr15	74392190	74392509	1484	Electron transfer flavoprotein subunit alpha, mitochondrial Precursor (Alpha-ETF) [Source:UniProtKB/Swiss-Prot;Acc:P13804]	0.18	0.04
KIAA1429	ENSG00000164944	chr8	95634726	95635216	151	Protein virilizer homolog [Source:UniProtKB/Swiss-Prot;Acc:Q69YN4]	0.66	0
KRR1	ENSG00000111615	chr12	74191530	74191965	101	KRR1 small subunit processome component homolog (HIV-1 Rev-binding protein 2)(Rev-interacting protein 1)(Rip-1) [Source:UniProtKB/Swiss-Prot;Acc:Q13601]	-0.23	0.04
MRPS23	ENSG00000181610	chr17	53282309	53283024	108	28S ribosomal protein S23, mitochondrial (S23mt)(MRP-S23) [Source:UniProtKB/Swiss-Prot;Acc:Q9Y3D9]	-0.23	0.04
MTMR11	ENSG0000014914	chr1	148177519	148178193	1139	Myotubularin-related protein 11 (Cisplatin resistance-associated protein)(hCRA) [Source:UniProtKB/Swiss-Prot;Acc:A4FU01]	0.63	0.02

OPA1	ENSG00000198836	chr3	194793296	194793788	87	Dynamin-like 120 kDa protein, mitochondrial Precursor (Optic atrophy protein 1) [Contains Dynamin-like 120 kDa protein, form S1] [Source:UniProtKB/Swiss-Prot;Acc:O60313]	-0.47	0.04
P2RY6	ENSG00000171631	chr11	72660631	72661188	66	P2Y purinoceptor 6 (P2Y6) [Source:UniProtKB/Swiss-Prot;Acc:Q15077]	1.05	0.01
PCYT1A	ENSG00000161217	chr3	197498852	197499207	48	Choline-phosphate cytidylyltransferase A (EC 2.7.7.15)(Phosphorylcholine transferase A)(CTP:phosphocholine cytidylyltransferase A)(CCT A)(CT A)(CCT-alpha) [Source:UniProtKB/Swiss-Prot;Acc:P49585]	0.38	0.05
PLEKHA6	ENSG00000143850	chr1	202599283	202599748	3875	Pleckstrin homology domain-containing family A member 6 (Phosphoinositol 3-phosphate-binding protein 3)(PEPP-3) [Source:UniProtKB/Swiss-Prot;Acc:Q9Y2H5]	0.41	0.01
PPP6R1	ENSG00000105063	chr19	60462352	60462774	177	protein phosphatase 6, regulatory subunit 1 [Source:HGNC Symbol;Acc:29195]	-0.33	0.01
PSMD4	ENSG00000159352	chr1	149493524	149493924	64	26S proteasome non-ATPase regulatory subunit 4 (26S proteasome regulatory subunit S5A)(Rpn10)(Multiubiquitin chain-binding protein)(Antisecretory factor 1)(ASF)(AF) [Source:UniProtKB/Swiss-Prot;Acc:P55036]	-0.19	0.02
PSRC1	ENSG00000134222	chr1	109618924	109619535	8134	Proline/serine-rich coiled-coil protein 1 [Source:UniProtKB/Swiss-Prot;Acc:Q6PGN9]	-2.44	0
RAB15	ENSG00000139998	chr14	64503539	64503818	4873	RAB15, member RAS oncogene family [Source:RefSeq peptide;Acc:NP_941959]	-0.49	0.01
RRP15	ENSG00000067533	chr1	216524920	216525501	55	RRP15-like protein (Ribosomal RNA-processing protein 15) [Source:UniProtKB/Swiss-Prot;Acc:Q9Y3B9]	-1.05	0.02
S100A11	ENSG00000163191	chr1	150275977	150276313	10	Protein S100-A11 (S100 calcium-binding protein A11)(Protein S100C)(Calgizzarin)(MLN 70) [Source:UniProtKB/Swiss-Prot;Acc:P31949]	0.36	0.01
S100A11	ENSG00000163191	chr1	150275977	150276313	10	Protein S100-A11 (S100 calcium-binding protein A11)(Protein S100C)(Calgizzarin)(MLN 70) [Source:UniProtKB/Swiss-Prot;Acc:P31949]	0.36	0.01
S100A11	ENSG00000163191	chr1	150275977	150276313	10	Protein S100-A11 (S100 calcium-binding protein A11)(Protein S100C)(Calgizzarin)(MLN 70) [Source:UniProtKB/Swiss-Prot;Acc:P31949]	0.36	0.01
SF3A3	ENSG00000183431	chr1	38228134	38228644	85	Splicing factor 3A subunit 3 (Spliceosome-associated protein 61)(SAP 61)(SF3a60) [Source:UniProtKB/Swiss-Prot;Acc:Q12874]	0.27	0.05
SIDT1	ENSG00000072858	chr3	114738193	114738711	4424	SID1 transmembrane family member 1 Precursor [Source:UniProtKB/Swiss-Prot;Acc:Q9NXL6]	0.63	0.01

SP1	ENSG00000185591	chr12	52050891	52051428	9093	Transcription factor Sp1 [Source:UniProtKB/Swiss-Prot;Acc:P08047]	-0.25	0.04
SSBP1	ENSG00000106028	chr7	141084284	141084827	158	Single-stranded DNA-binding protein, mitochondrial Precursor (Mt-SSB)(MtSSB)(PWP1-interacting protein 17) [Source:UniProtKB/Swiss-Prot;Acc:Q04837]	-0.28	0.04
SSSCA1	ENSG00000173465	chr11	65094071	65094643	162	Sjogren syndrome/scleroderma autoantigen 1 (Autoantigen p27) [Source:UniProtKB/Swiss-Prot;Acc:O60232]	-0.35	0.04
SUMF1	ENSG00000144455	chr3	4483679	4484079	26	Sulfatase-modifying factor 1 Precursor (EC 1.8.99.-)(C-alpha-formylglycine-generating enzyme 1) [Source:UniProtKB/Swiss-Prot;Acc:Q8NBK3]	0.28	0.02
VPS45	ENSG00000136631	chr1	148306014	148306613	54	Vacuolar protein sorting-associated protein 45 (h-VPS45)(hVps45) [Source:UniProtKB/Swiss-Prot;Acc:Q9NRW7]	0.37	0.04
ZNF398	ENSG00000197024	chr7	148472992	148473347	2582	Zinc finger protein 398 (Zinc finger DNA-binding protein p52/p71) [Source:UniProtKB/Swiss-Prot;Acc:Q8TD17]	-0.31	0

Table S12. Genes differentially expressed and bound by p53 only upon RITA treatment

Gene Name	RITA treatment		Nutlin treatment	
	log2 Fold Change	p-value	log2 Fold Change	p-value
AMBN	0.278856978	0.10057385	0.003075391	0.991282475
ARMC1	-0.706986503	3.52E-05	-0.179833845	0.261756425
ATP8B4	0.128262863	0.35567249	0.248321976	0.119857744
BMS1	-0.2016932	0.1454742	-0.185450937	0.271067583
CALD1	0.386333984	0.11217968	1.988191856	5.04E-07
CHD2	0.267733202	0.15492051	-0.029552402	0.928231744
CLIP2	0.353766425	0.040632	0.225247603	0.273732626
CSDA	0.494719951	0.0009933	0.318886686	0.032241381
CYP19A1	0.096261026	0.47405373	-0.012602735	0.957344448
DUSP11	-0.779571065	6.98E-05	0.409846915	0.020152821
DYNC1H1	-0.14095894	0.38935027	0.803977978	0.000103971
GCH1	-0.393699055	0.0170704	-1.044834198	4.19E-06
GNAI1	0.055426682	0.7738798	1.086085275	1.33E-05
HSPA4	-1.422757937	1.21E-07	-0.399025523	0.004649012
JUND	0.248039621	0.14821921	0.866288148	8.28E-05
MTMR4	-0.450828205	0.0079146	-0.918611512	1.88E-05
NLRX1	0.245092566	0.13372972	0.997150379	1.03E-05
PCDHGC3	0.23746931	0.16984533	-0.135504579	0.567040692
PDE2A	0.466469516	0.0165522	0.598208239	0.005227077
PFDN1	-0.054372753	0.56944701	0.158574026	0.144055793
PI4K2A	0.304292274	0.0464043	1.652129883	1.95E-06
PMS2L3	0.311233732	0.0122766	0.408856592	0.002873422
PTRF	0.614724244	3.51E-05	-0.203227087	0.125900918
SEC62	-0.612189403	0.0001858	-0.230916531	0.140831244
TMOD2	-0.156342809	0.35465509	0.384612125	0.043437348
TMOD3	-0.482843464	0.01232	0.346279575	0.09871321
TNPO3	-0.283455778	0.0131773	-0.11355267	0.414983856
UHRF1BP1L	-1.274229428	2.19E-06	-0.518505971	0.012868404
WRAP53	0.112857913	0.35268955	-0.72140922	1.34E-05
ZNF12	-0.224567226	0.15763717	0.396929911	0.027288964

Table 13. List of the primers used for RT-PCR, ChIP-PCR and cloning experiments

RT-PCR primers

CDKN1A_f:	GTACCACCCAGCGGA
CDKN1A_r:	CCTCATCCCGTGTTCC
ANKRA2_f:	AGATGCTCTTAGAAAAGTGGG
ANKRA2_r:	AGCTTCAACAAATGTGACTC
HES2_f:	GACCTCATTTTCGGACCTC
HES2_r:	CTGCCTTCTCTAGCTTCG
KCNN4_f:	GTATACCAAAGAGATGAAGGAG
KCNN4_r:	TGTCAATCTGTTTCTCCAGG
MLLT11_f:	TTGATAACAGGAAGCTATGAGG
MLLT11_r:	TGTCTTTGACCTTGTAGGTG
FOSL1_f:	GATGGTACAGCCTCATTTCC
FOSL1_r:	AGTCGGTCAGTTCCTTCC
C1orf183_f:	TCGCCTCAAACAGGAGC
C1orf183_r:	TCATGCAGTTCATCTGATCC
CMBL_f:	GGATACACAACCATTGTTCC
CMBL_r:	CTTCAAGATAGCACTGATCTC
MKNK2_f:	CAGGTTTGAAGACGTCTACC
MKNK2_r:	GCATCTTCTCAAACACCAGG
PROM2_f:	TGAGGAATGTGAGTGAGTG
PROM2_r:	GGACGGAAGTATTTGGAGG
CEL_f:	TCTGTGGACATCTTCAAGG
CEL_r:	GTACAGGCAGTCTTCATCC
SEI1_f:	CGTTTCCTGATTGGTTGTG
SEI1_r:	CACTGAGAGGTCAAAGAGG
TXNIP_f:	GTGAAGGTGATGAGATTTCC
TXNIP_r:	ACGCTAACATAGATCAGTAAGG
ORAI3_f:	CCAAGCTCAAAGCTTCC
ORAI3_r:	GGTGGACAGAGTTGAGG
ZNF219_f:	CAGTCTTTGCTGGTCCATAG
ZNF219_r:	AGGGATGACAGGAATCGTAC
AURKA_f:	TGTTAAGGCTACAGCTCC
AURKA_r:	GGGAAGAATTTGAAGGACAC
ATAD2_f:	GAGAGAAGATGGTGGTTCTCC
ATAD2_r:	AAGATCTTAAAGCACGTGTCC
DNAJC2_f:	GTGCTTACTGGTCGTCTCC
DNAJC2_r:	ACAGAGTGTAGAGGCAGAGG
RRP15_f:	AAATGGTAACTGGAGCCG
RRP15_r:	TCACTGTCAGCTTCTATTGC

ChIP-PCR primers

CDKN1A_f:	GTGGCTCTGATTGGCTTTCTG
CDKN1A_r:	CTGAAAACAGGCAGCCCAAG
ANKRA2_f:	TTTCTTCTTTTCGCCTTCTGG
ANKRA2_r:	CCCTGTCTGTGTAGTACTCC
HES2_f:	CCATTATTGAGCCTTACAGC
HES2_r:	GCCAATGATGTTGTTTCTGC
KCNN4_f:	CTGAACTGGTGACACTGC
KCNN4_r:	TGTCCATGTGTATGGTTTGG
MLLT11_f:	AAATATGGAACCGGGAAAGC
MLLT11_r:	CTTTCTTTCTCTCCAGCTGC
FOSL1_f:	GATGAGGTCTTCGATTCCG
FOSL1_r:	GCTGATAGAATGGGAACAGG

C1orf183_f: TCAAAGTTTCTTCGTGGTCC
C1orf183_r: GGAAATGGACTGCTATCTCC
CMBL_f: TGTTCTGCAAGGACAACG
CMBL_r: TCTGACTATGGCAAAGAAGG
MKNK2_f: CCCACCATGAGACTCCAG
MKNK2_r: CTCTACAGATTGAGGAAGCG
PROM2_f: CACGTTTCTGGTCATATCC
PROM2_r: CCAATCCTGAACAGAGGC
CEL_f: ACACTGGCTGAGCTTAAAGG
CEL_r: TTTCCCTGTGGAAACAAAGG
SEI1_f: AAGCTTCTTACACATCCAGC
SEI1_r: ATGTGATTCCGTTGGTATCG
TXNIP_f: CAATGGGAGGGATGTGC
TXNIP_r: GGTTAGTTTCAAGCAGGAGG
ORAI3_f: AGTCTCAAGCTGATAAACCC
ORAI3_r: CTCCATGATCTCAGTTTCCC
AURKA_f: GTCCAAGGAGGTGAACTAAC
AURKA_r: CTCTCCTGGAAAAATGGAGG
ATAD2_f: CATTGTAGAGCGAAGGAGG
ATAD2_r: AAATTCCAAACGGGCTACG
DNAJC2_f: TATACTGACTGAGATCCGGC
DNAJC2_r: CTATGTATTGCACTGGGACG
RRP15_f: AAATGCAGAAGTTCCTCTGG
RRP15_r: CTATCAGAAGTGTCTGTGGC
ZNF219_f: TTAAGTGGAGCTGACCCTAG
ZNF219_r: CAGGTCCTACCCTACTTAGC
c-MYC_f: ATCCTCTCTCGCTAATCTCC
c-MYC_r: ACAGCGAGTTAGATAAAGCC
Cloning primers
SEI1_f: CAGAGATCTCAGACAGCACGTAGAGGT
SEI1_r: GAGACGCGTGATGTGATTCCGTTGGTATC
AURKA_f: GCGAGATCTACAAGCAGTATCCTACAGGG
AURKA_r: GTGACGCGTTGCTAACTCTCGACTCTTC